INFO/gen™

Etheridge Jimmy

INFO/gen is an advanced, programmable character generator in cartridge form that will plug into any Interact Computer. It's ideal for information display in Cable TV, Private Cable, Hotels/Motels, Hospitals, Transportation Facilities, Corporate Offices, Factories, Retail Stores, Shopping Centers, Government Offices, Schools, Military Bases, virtually anywhere there is a need to communicate effectively with a number of people.

The INFO/gen character generator is based on the latest developed graphics technology for its more outstanding features. It is easy to operate and can be run by a relative beginner after only a short familiarization period. As many as 8 different display pages are possible... each of which may be instantly displayed. With the built-in sequencer, the INFO/gen can automatically display pages. As more experience is gained, the operator can assume more control to effect more impressive displays and even do some limited animation.
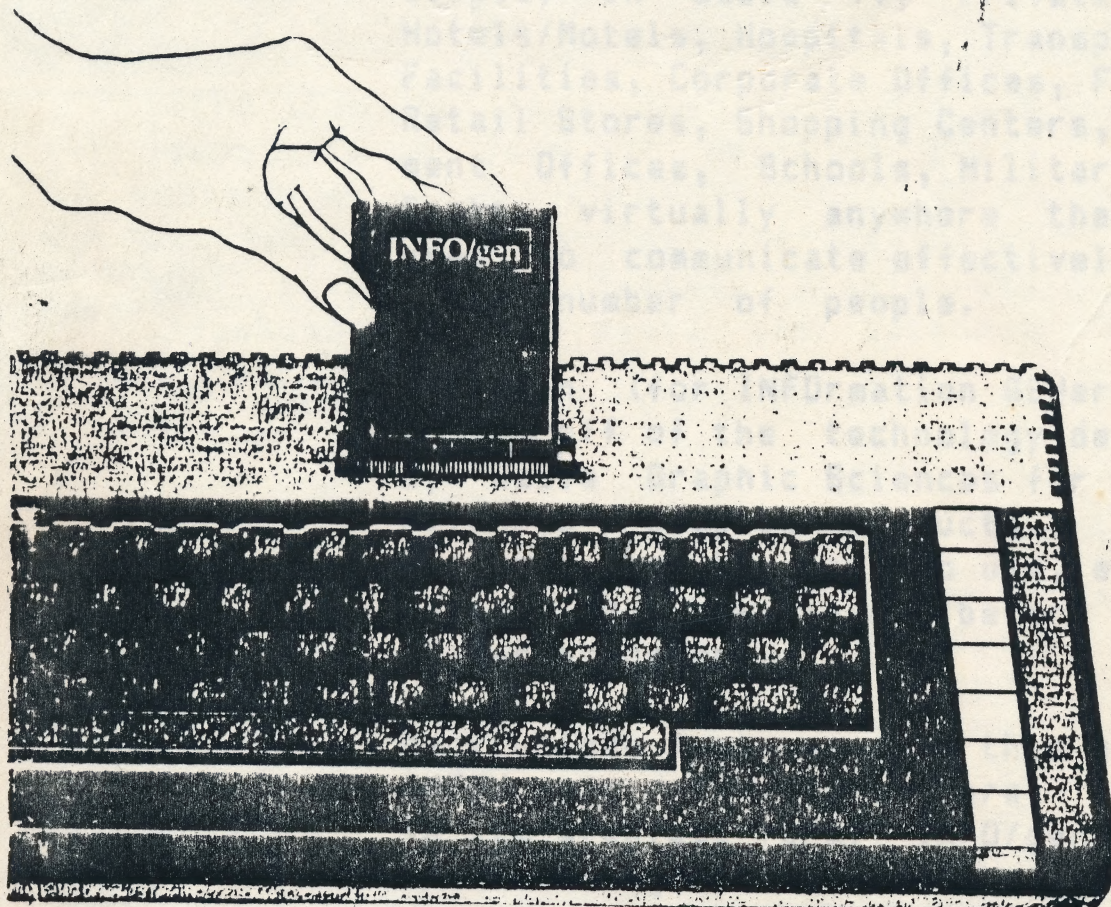
Cable Graphic
Sciences

-1-

INTRODUCING INFO/gen!

INFO/gen is an advanced, professional character generator in cartridge form that will plug into any Atari Home Computer. It's ideal for information display in Cable TV, Private Cable, Hotels/Motels, Hospitals, Transportation Facilities, Corporate Offices, Factories Retail Stores, Shopping Centers, Government Offices, Schools, Military Bases, Banks, virtually anywhere there is a need to communicate effectively with a large number of people.

INFO/gen (for INFOrmation GENerator) is a spin-off of the technology developed by Cable Graphic Sciences for its more advanced graphic products. It is designed to be easy to use, even by a person who has never before seen a character generator.

Many unique features make this possible. INFO/gen's functions are 'layered'. In its simplest form, INFO/gen's built-in intelligence decides how to display pages. As more experience is gained, the operator can assume more control to effect more impressive displays and even do some limited animation.

This manual should not be necessary! Use INFO/gen's built in HELP screen if you forget what function to use. The rest of this manual is arranged by KEY WORD. Look up the appropriate key word for a description of how to use a feature or function.

We are confident that you will enjoy using INFO/gen for many years to come!

Thank you for selecting INFO/gen! We are always pleased to receive your comments and ideas for new products.

ANIMATION

Because INFO/gen changes from page to page instantly, you can create some unusual animated affects. Simply set the Dwell time for each page in the animated sequence for 1 second display. Then, set the sequence so that the pages form an animated display. Various eye-catching affects can be created. Use your imagination !

BACKROUND

COLORS

To change the color of the backround, position the cursor in the region or on the page that you want to change. Then, press the 'OPTION' key. Each time you press this key, the backround colors will change. There are 16 colors, or color combinations. The Small characters (Format 1) are either white or black on a solid or multi-colored backround. The Medium and Large characters (Formats 2 and 3) may appear in up to 4 different colors. They can also flash on and off for attention grabbing displays. See the sections: CHARACTER COLORS and FLASHING for more details.

BOTTOM

REGION

Enter the Bottom Region by pressing 'ESC' - 'B'. The cursor will appear in the upper left of the region. Change the display as desired. Change backround colors with the 'OPTION ' key. Use 'ESC' - 'I' for International characters. Exit by entering another region.

Note: the Date/Time display cannot be altered. It is automatically displayed for 10 seconds, followed by a 10 second display of the Bottom Region message. This feature allows the cable operator or Hotel/Motel manager to sell ad space in this area.

BREAK ------	The Break key will display the Help Screen whenever it is pressed while editing a page.
CENTER TEXT -----------	To automatically center text on a line, move the cursor to the line and press 'ESC'- '/'. The line will be centered instantly!
CHARACTER --------- **COLORS** ------	Screen Formats 2 and 3 use Medium and Large sized characters. You can choose either of two colors for these charact- ers by pressing 'ESC'- '1' for color #1 and 'ESC' - '2' for color #2. After pressing these keys, all of the characters following will be in the color chosen. Note that the actual color will depend upon the backround color chosen with the 'OPTION' key.
CLEAR PAGE ----------	To erase a page, press 'SHIFT' and 'CLEAR' together. If you clear a page and leave it blank, it will not be displayed.

CRAWL REGION

To edit the Crawl Region, Press 'ESC' 'C'. The entire crawl region will appear in the page area of the screen. Simply type in your crawl message. Do NOT add extra spaces at the end of the line. Words will appear to be broken up as you enter text, but will appear normally when displayed. Press 'OPTION' to change the color of the Crawl line. Exit by entering another region. Or, press 'START' to see how your crawl will look when it is displayed. Return to editting by pressing 'BREAK'.

CURSOR

MOVEMENT

The Cursor is the '_' mark that shows where the next character will be placed on the screen. You can move the Cursor by holding down the 'CONTROL' key and simultaneously pressing on the the arrow keys, i.e., the ←, →, ↑, or ↓ keys. The Cursor will move one space in the direction indicated each time the key is pressed. For faster movement over a larger area, hold down the arrow keys. After a short pause, the keys will repeat automatically.

DELETE

To Delete a CHARACTER, position the Cursor over the character to be deleted and while holding down the 'CONTROL' key, press 'DELETE'. The character under the Cursor will be deleted and all of the remaining characters on the line will be shifted one space to the left.

To Delete an ENTIRE LINE, position the Cursor to the line that you wish to delete. Hold down the 'SHIFT' key and press 'DELETE'. The line will be deleted and all of the lines below the Cursor will move up one line.

DWELL TIME

Each page can have a different dwell time. For example, each page can be independently displayed for a period of as little as 1 second or as long as 99 seconds. Each page will auto- matically be displayed for 12 seconds unless you change it. To set another dwell time press 'ESC' - 'D'. A prompt will appear in the Crawl region asking you to enter a time from 1 to 99 seconds. Do so and remember to press the RETURN key afterwards. The new dwell time will then be recorded. By setting the Dwell time to 1 second and altering the page sequence, you can create some limited animated effects which are very appealing.

ENTERING

TEXT

Simply type your message just as you would on an ordinary typewriter. You can correct mistakes by pressing the BACKSPACE key or by moving the Cursor and typing over the mistake.

FLASHING

CHARACTERS

In Screen Formats 2 and 3, the Medium and Large sized characters can be made to flash by first pressing either 'ESC'- '3' or 'ESC'- '4'. All characters typed in afterwards will flash when the display is started. The color of the characters displayed with the 'ESC' '3' command is, in most cases, the same as those displayed with the 'ESC'- '1' command. In a few cases, these colors will vary. All of the colors are fixed, and are chosen with the 'OPTION' key.

FORMATS

There are three screen formats. Each format has a different size screen and a different character height and width. Change formats by pressing 'ESC' - 'F'. Each time you do this, the format will change. The three formats have screen sizes as follows:

Format 1 - 12 Lines x 40 characters
Format 2 - 12 Lines x 20 characters
Format 3 - 7 Lines x 20 characters

GRAPHIC	To use the Graphic Character set, press

CHARACTERS	'ESC' - 'G'. Hold down the 'CONTROL'
----------	key and press the appropriate graphic

GRAPHIC

CHARACTERS

To use the Graphic Character set, press 'ESC' - 'G'. Hold down the 'CONTROL' key and press the appropriate graphic key. See the diagram in the center of this booklet for the position of each graphic key.

HELP SCREEN

If you should forget which command to use, press the 'HELP' key on the computer and a special help screen will appear. (If you have an older Atari that does not have a Help key, use the BREAK key instead!). You can check the Help Screen at any time.

INSERT

To insert a CHARACTER in the middle of a line, move the cursor to the desired position. Hold down the 'CONTROL' key and press 'INSERT'. Each time you do this, the characters to the right of the cursor will be moved one space to the right. Then, type in the desired character into the 'hole' that you have created.

NOTE: Characters can be pushed off the right side of the screen. They cannot be recovered.

To insert a BLANK LINE into the text position the Cursor at the desired location. Hold Down 'SHIFT' and press 'INSERT'.   All of the text, from the Cursor down, will be moved down one line.

INTERNATIONAL

CHARACTERS

To use the International Character Set, place the Cursor in the desired region and press 'ESC' - 'I'. Then, hold down the 'CONTROL' key while pressing the appropriate International Character key.   See the centerfold for a diagram of the International Characters.

LOADING

PAGES FROM

CASSETTE

Pages can be loaded from a previously saved cassette by pressing 'ESC'- 'L'. You will be prompted to press the PLAY button on the cassette recorder. Then, hit any key.   The cassette tape will begin to load pages.   Normally, pages load at the rate of about 6 pages per minute.   A full 36 pages will take between 6 and 7 minutes to load.

LOWER CASE

LETTERS

To set the keyboard for both Upper and Lower case letters (In FORMAT 1 only) press 'CAPS' once.

MILITARY   To set the clock for 'Military' or 24
---------   Hour time, press 'ESC' - 'M' once. Each
TIME   you do this the time display will
----   change format (either 12 or 24 hours).
The prompt line will indicate whether
you are in 12 or 24 Hour format.

NEXT PAGE   To go to the next page, press 'ESC' -
---------   'N'. This is easier than using 'ESC'-
'P' - '##'.

PAGE EDIT   To get to the desired page, press 'ESC'
---------   'P' then enter a number from 1 to 36
and press RETURN. The page will be
displayed and the appropriate page
number will be shown in the Crawl
region.

PROMPT LINE   Whenever you need to enter a number, or
----------- need to do something, a message will
appear in the Crawl region of the
screen. This is known as the 'Prompt
Line'.

REGIONS

The INFO/gen screen is divided into 4 regions: Upper, Page, Crawl and Bottom. The bottom region has two parts: a fixed message and a date/time display. Each of the message regions can be changed as desired. Backround color is also changeable. Refer to the section that describes each region for more information.

REPEATING
---------
CHARACTERS

When you press any key, and continue holding it down, the character repeats itself automatically until you release the key.

REVERSE

VIDEO

To print characters in a Reverse video format, first press the ◢ or ◿ key. All characters typed will then be in a reverse or inverted video style. To return to normal, press the ◢ or ◿ key again.

SAVING

PAGES TO

CASSETTE

Pages can be saved on the optional cassette recorder for future use. To do so, press 'ESC' - 'S'. The computer will prompt you to: PRESS 'PLAY' and 'RECORD' on the cassette. Then, press any key to start saving the entire contents of memory. For a full 36 pages, about 6 minutes is needed.

SEQUENCING

PAGES

Pages may be displayed in Numerical Order starting at Page 1, or, Randomly in any order desired. If you do nothing, the display will start at Page 1 and proceed upward. Only pages which are not blank will be displayed. If, for example, you have messages on pages 1, 3, 5 and 21. The display will start on page 1, then jump to pages 3, 5 and 21. All other blank pages will be ignored!

If you want to choose a random page display, press the 'SELECT' key. The Bottom Region will change to reveal a series of page sequence numbers. Move the Cursor and change the numbers to any sequence desired. Press RETURN to save the sequence. To abort without changing the sequence, Press the HELP key.

Note that it may be easier to first clear the Bottom Region of the old sequence numbers before entering the new ones. Do this by holding down the 'SHIFT' key and pressing 'CLEAR'. The entire area will be cleared. Then, type in the desired sequence, making sure that there is at least one space between each of the page numbers.

STARTING -------- THE DISPLAY -----------	To Start the display, simply press the START key! You can interrupt the display by pressing either the HELP key or the BREAK key. The HELP key will stop the display and return to the Help Screen. The BREAK key will stop on the page being displayed and put you into page edit so you can make immediate changes to your text.
TABS ----	Use the 'TAB' key to move across the screen. The TAB spacing is fixed at 5 spaces. Each time you press the TAB the cursor will advance 5 spaces to the right.
TIME/DATE --------- REGION ------	Enter the Time/Date Region by pressing 'ESC' - 'T'. Move the cursor over the displayed time and enter the current time. Change the date if needed. When you press 'RETURN', the time will be set. The Time/Date should not need resetting unless a power failure has occurred or the 'SYSTEM RESET' key has been pressed. The internal clock is Quartz crystal controlled and should maintain a very high degree of accuracy.

UPPER CASE   If you want to use ONLY Upper case
----------   in Format 1 (Small Characters), you
LETTERS   can lock the keyboard by pressing
-------   'SHIFT' and 'CAPS' simultaneously.
                  ONLY UPPER CASE LETTERS ARE USED IN
   THE MEDIUM AND LARGE TEXT FORMATS.

UPPER REGION   Enter the Upper Region by pressing the
------------   'ESC' key followed by the 'U' key. The
                  cursor will appear in the upper left
                  corner of the region. Change the
                  contents of the Upper Region as needed.
                  To change the backround color, press
                  the 'OPTION' key. If desired, you can
                  use the International character set by
                  pressing 'ESC' - 'I'. Exit by going to
                  another region.

                  The Upper Region is 'static'. It does
                  not change, always appearing at the top
                  of the screen. When you save pages on
                  a cassette recorder, the Upper region
                  will also be saved.

KEYSTROKE SUMMARY

Backround Colors	OPTION
Backspace	Backspace Key
Bottom Region Edit	ESC - B
Center Text	ESC - /
Character Colors	ESC - 1 or ESC - 2
Clear Page	SHIFT - CLEAR
Control Lock	CONTROL - CAPS
Crawl Region Edit	ESC - C
Cursor Movement	CONTROL - ↑ ↓ ← or →
Delete Character	CONTROL - DELETE
Delete Line	SHIFT - DELETE
Dwell Time	ESC - D
Flash Character	ESC - 3 or ESC - 4
Format Change	ESC - F
Graphic Characters	ESC - G
Help Screen	HELP
Insert Characters	CONTROL - INSERT
Insert Line	SHIFT - INSERT
International Char.	ESC - I
Load Pages from Cassette	ESC - L
Lower Case Letters	CAPS
Military Time	ESC - M
Next Page	ESC - N
Reverse Video	◣ or ◿
Save Pages to Cassette	Esc - S
Sequence Page Display	SELECT
Start Displaying Pages	START
Tabs	TAB
Time/Date Setting	ESC - T
Upper Case Only	SHIFT - CAPS
Upper Region Edit	ESC - U

BLUE   RED/GREEN   WHITE

Use 'Shift' Key

To print these characters on the screen, Hold Down 'CONTROL' and press the appropriate key. Use 'ESC' - 'I' to switch to the International Character Set, and 'ESC' - 'G' to go back to the GRAPHIC Set. Only one set can be used on a page.

INTERNATIONAL CHARACTER SET

à é ô û ü

â ê ù î ç ö ü

ä ë û ç ô ì ü ï

À é à è â ï ö Ü

Á à é à â ö Ü

Â à ê ô ì £ û ä Ö Ä

Ã à Ë ñ ç ò ì £ ü ä Ó Ä

Ä á Ê ñ Ñ ó ù ä Ô ú ä á í

APPENDIX

EQUIPMENT

NEEDED

INFO/gen can be plugged into any Atari home computer. A full 36 pages of memory is available on any computer with 24k or more memory.

--COMPUTER--	# Pages	Output
Atari 400	24	RF Only
Atari 600 XL	24	RF Only
Atari 800	36	VIDEO + RF
Atari 800 XL	36	VIDEO + RF
Atari 1200 XL	36	VIDEO + RF

In addition, INFO/gen is designed to work with the Atari 410 and Atari 1010 Cassette Recorders. This allows a user to save pages on an ordinary cassette tape for backup purposes or for use at some later time.

INSTALLATION

Turn OFF power to the computer. Plug the INFO/gen cartridge into the slot provided in the computer. On the older Atari 800 computers there are 2 slots. Use the LEFT one.

Turn ON the power and the Help Screen should appear.

Below are several diagrams showing how INFO/gen is installed in various applications.

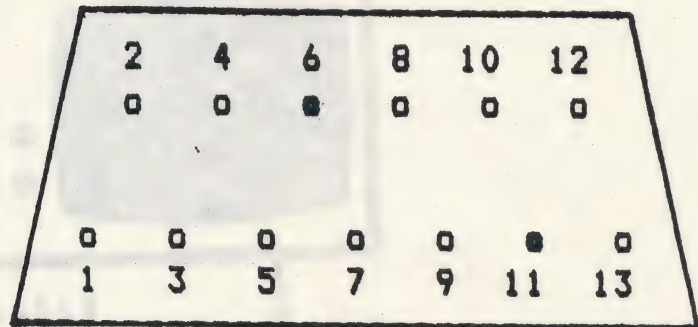# COMPOSITE VIDEO OUTPUT
(Atari 800, 800XL and 1200XL Only.)

```
             _____
           /     ___     \
          /     |   |     \
         |                 |
         |                 |
         |  • 3      1 •   |
         |                 |
         |                 |
         |  • 5    4 • <------- COMPOSITE VIDEO
         |       2         |
         |       • <-------------- GROUND
          \               /
           _____/
```
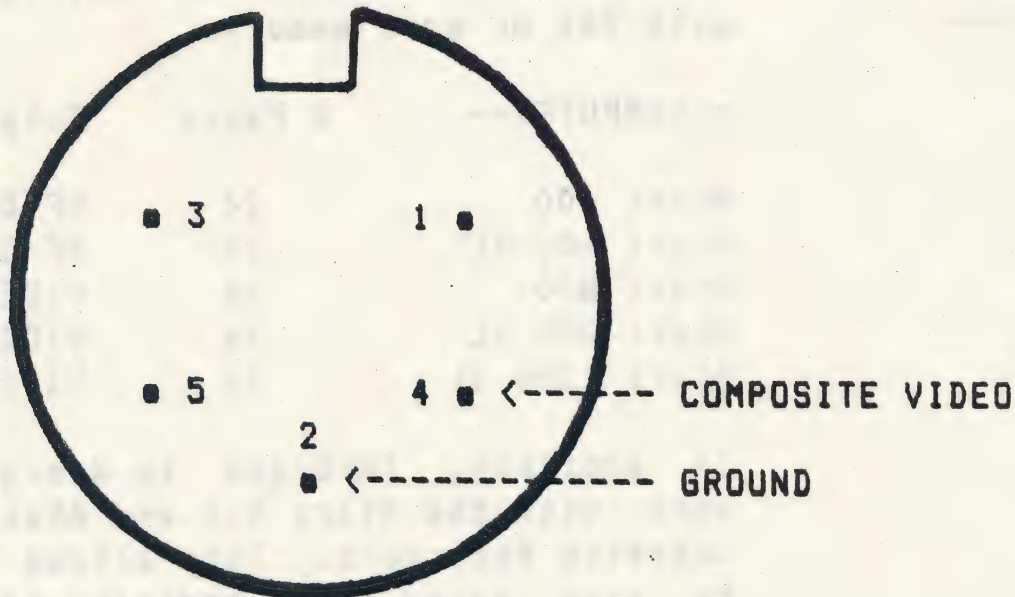
Video output is available from the
Atari's 'MONITOR' jack. Use a
good quality D.I.N. 5 connector and
75 ohm coax between the computer and
the channel modulator.

We have run video lines as long as 800
feet using RG/6 instead of RG/59
without any additional video amps in
the line with good results. For longer
runs, use larger cable or additional
video amps. Consult your cable
supplier for the appropriate hardware.

If you are using the built-in R.F.
Modulator, you may apply external
audio to the modulator by connecting
low - level audio to the 'Peripheral'
connector on the computer as shown
below.

Suitable Video and Audio cables are
available from Cable Graphic Sciences
for a nominal charge.

```
   2     4     6     8    10    12
   o     o     ▪     o     o     o




   o     o     o     o     o     ▪     o
   1     3     5     7     9    11    13
```

Pin 11 - Audio Input
Pin 6 - Ground

CABLE TV &
PRIVATE CABLE

CABLE TV/PRIVATE CABLE INSTALLATION

Connect the video output directly into a Cable TV modulator tuned to the desired channel. Use an ordinary TV set tuned to Channel 2 or 3 as a monitor. Or, if desired, use a monitor and 'loop thru'the video line with the monitor in the 'Hi-Z' position.

T.V. Set
(Ch. 2 or 3)

Cable Modulator

Video

R.F.

To Cable System

Optional Cassette
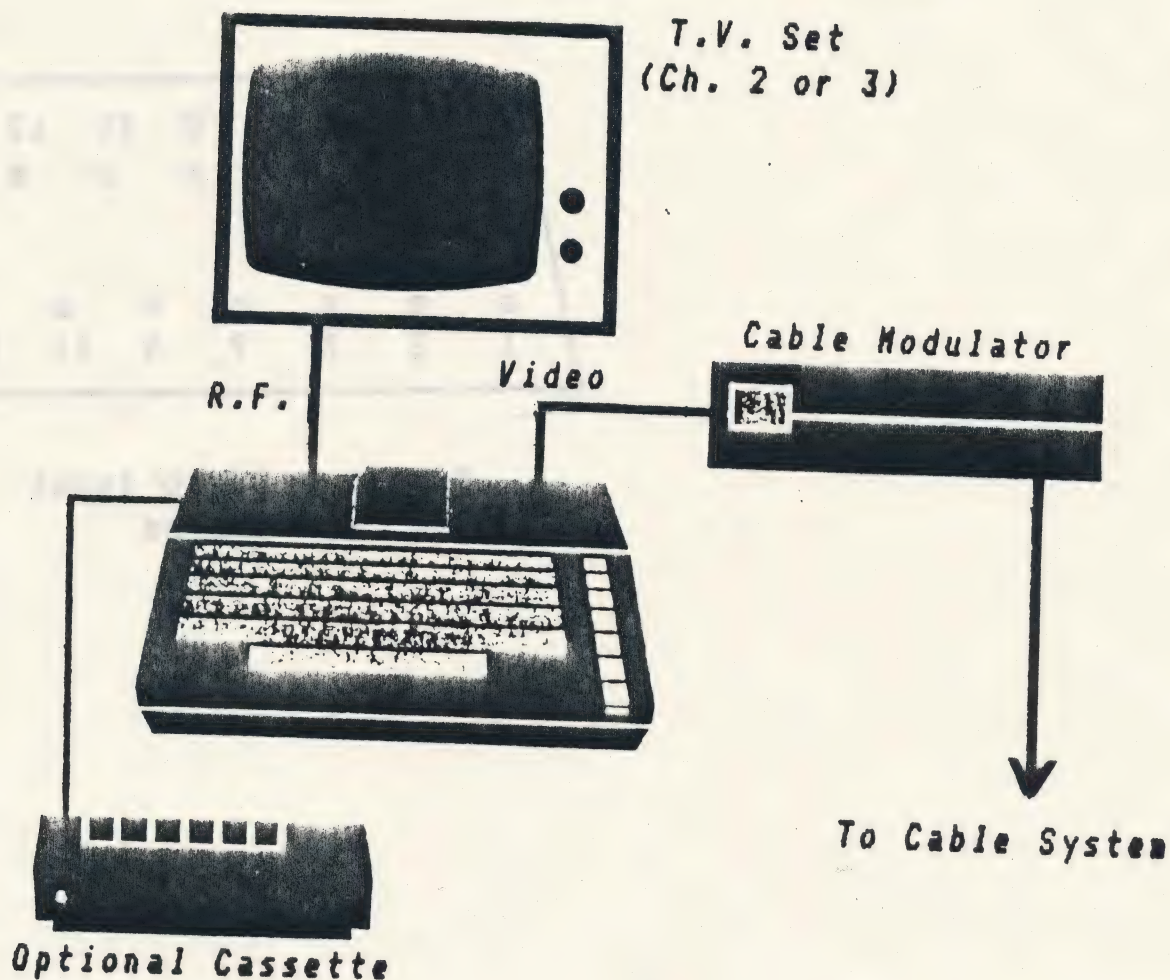
HOTELS/MOTELS

WITH EXISTING

CABLE TV

Many Hotels and Motels have Cable TV supplied from the outside. Often there are no free channels on which to place a Message system such as this. However, a simple 'Blocking' filter can be obtained that will remove one channel and permit the Message channel to be inserted. A typical installation is shown below.

T.V. Set (Ch. 2 or 3)

Froa CABLE TV systea

*Blocking Filter
(Reaoves a Channel)*

R.F.

Video

Cable Modulator

Channel Coabiner

Optional Cassette

To Hotel TV Systea
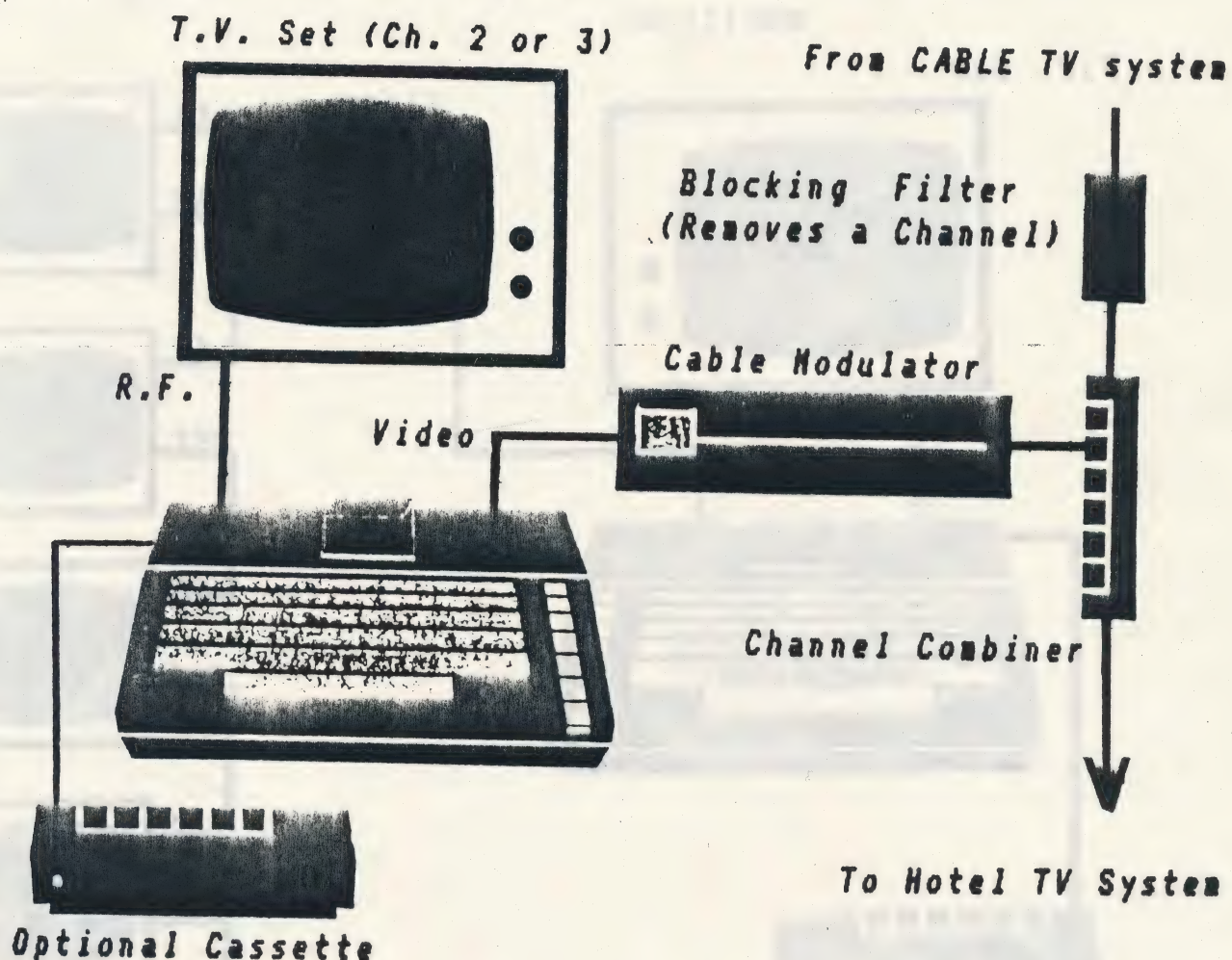
ELECTRONIC MESSAGE SYSTEMS

THE ELECTRONIC BULLETIN BOARD

Electronic Billboards or Message Boards have wide application in Hotel and Motel lobbies, Convention Centers, Airports, Corporate Offices, Shopping Centers, Factories, Restaurants, Bus Stations, Retail Stores, etc.

Here is a typical layout using video monitors:

T.V. Set

R.F.

Video

IN

OUT

IN

OUT

IN

OUT

IN

OUT
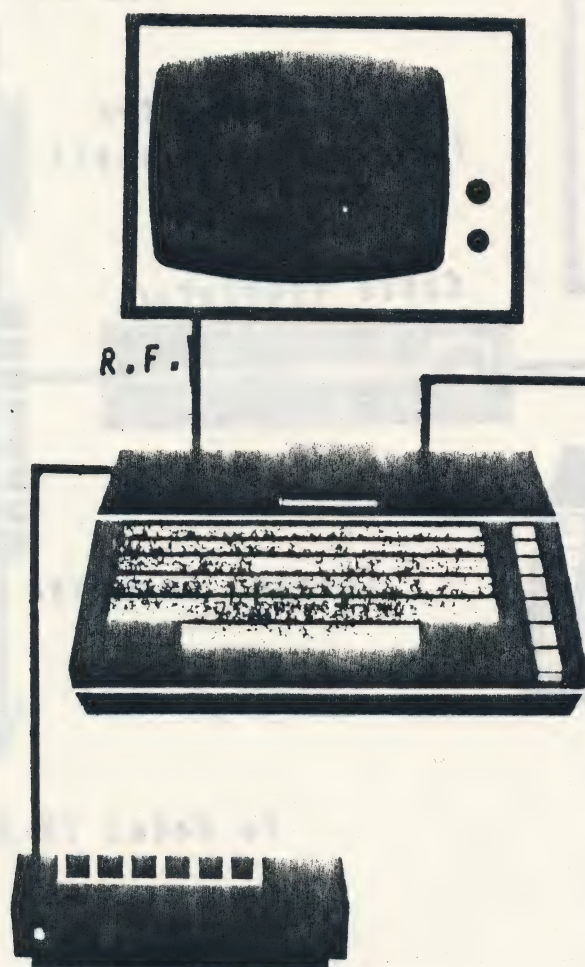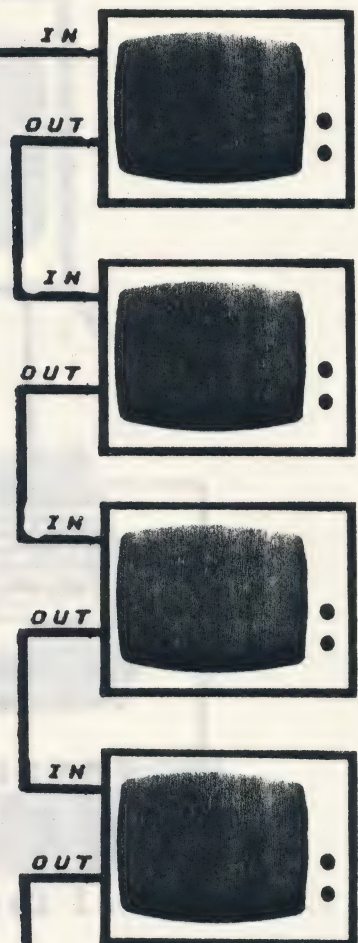
Optional Cassette

Use Video Amplifiers To Extend The Line To More Monitors.

ELECTRONIC

MESSAGE

SYSTEMS

While video monitors provide the best display quality, sometimes it may be be desireable to us ordinary TV sets. Here is a typical set-up for such an application. It is in fact nothing more than a miniature cable system. Amplifiers can be used to extend the number of TV sets and the distances as needed.

TV Sets

Video

Line
Amplifier

R.F.

TAP

TAP

TAP

TAP

Optional Cassette
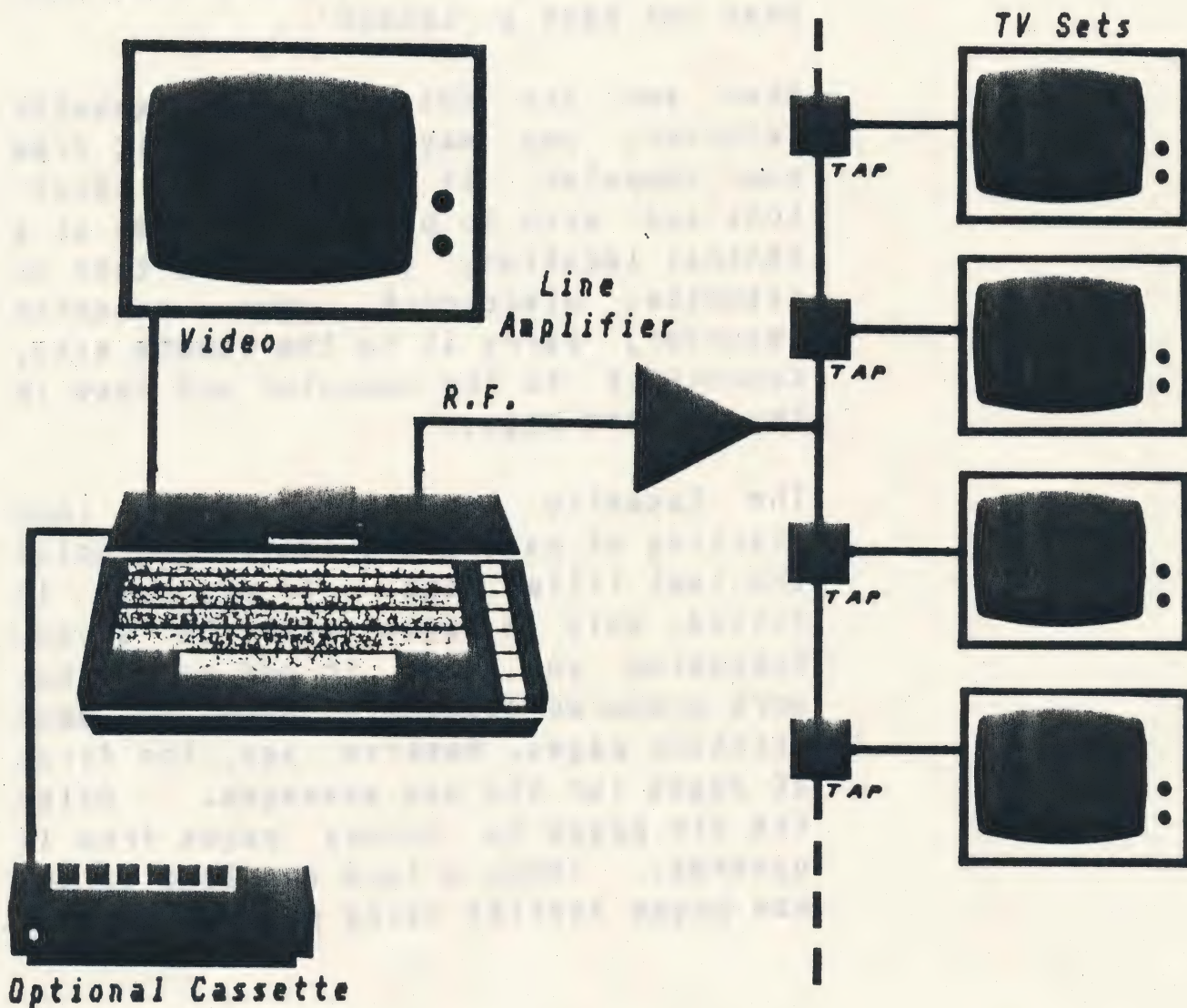
CASSETTE

OPERATION

Plug the Atari 410 or 1010 Cassette recorder into the mating connector on the computer. Always use a quality, brand name tape to avoid errors and the necessity of reloading a tape. INFO/gen will save approximately 6 pages per minute. Thus, to save all 36 pages, it will take between 6 and 7 minutes. Use a C-15 or C-30 tape for best results. If possible, use a tape that does not have a 'LEADER'.

When you are not using your cassette recorder, you may disconnect it from your computer. If you have many locations and wish to prepare messages at a central location, you can save them on cassette, disconnect your cassette recorder, carry it to the remote site, connect it to the computer and load in the desired pages.

The Cassette tape will always load starting at page 1 and continuing until the last filled page. If you have 15 filled, only 15 pages will be saved. Supposing you want to add pages that were prepared somewhere else to some existing pages. Reserve, say, the first 10 pages for the new messages. Allow the old pages to occupy pages from 11 upwards. Then, a tape can load in the new pages anytime using pages 1 thru 10.

MEMORY

PROTECTION

Pages are stored in volatile RAM memory. If power fails these pages will be lost. However, there are two ways to save memory. The first method uses the cassette tape as a backup. If power fails, the tape can always be reloaded manually.

The second method allows you to add an external BATTERY BACKUP which keeps the computer fully operational for a period of 20 minutes to one hour or more during a power failure. Using this method, memory can be saved for 30 minutes when using 4 Alkaline Flash-light batteries, and well over one hour on a set of 4 'C' cell Ni-Cad batteries! Note however, this method works only for the newer Atari 600XL and 800 XL computers. These computers are powered by an external 5 Volt D.C. supply.

The batteries are simply floated across the 5 Volt supply using a diode. See the diagram below. If Ni-Cad batteries are used, the diode could be eliminated since 4 Ni-Cad cells normally measure 5 Volts D.C.

The computer will operate down to a supply voltage of about 3.8 V.D.C. However, some color changes will be noted as the voltage is lowered. But, memory will remain in tact and normal operation will resume when AC power is restored.

Suitable Ni-Cad cells for battery back-up purposes can be obtained from many sources, including Radio Shack, and many other suppliers. The backup times quoted here were the results of several tests using Eveready CH35 cells. These are commonly available 1.2 Amp-Hour 'C' cells meant for consumer applications. 'D' cells of this type are also rated at 1.2 Amp-hours.

5 V.D.C to
XL Computer

Atari XL
5 V.D.C.
Power
Supply

(See Text)

6 Volt
Alkaline
Batteries
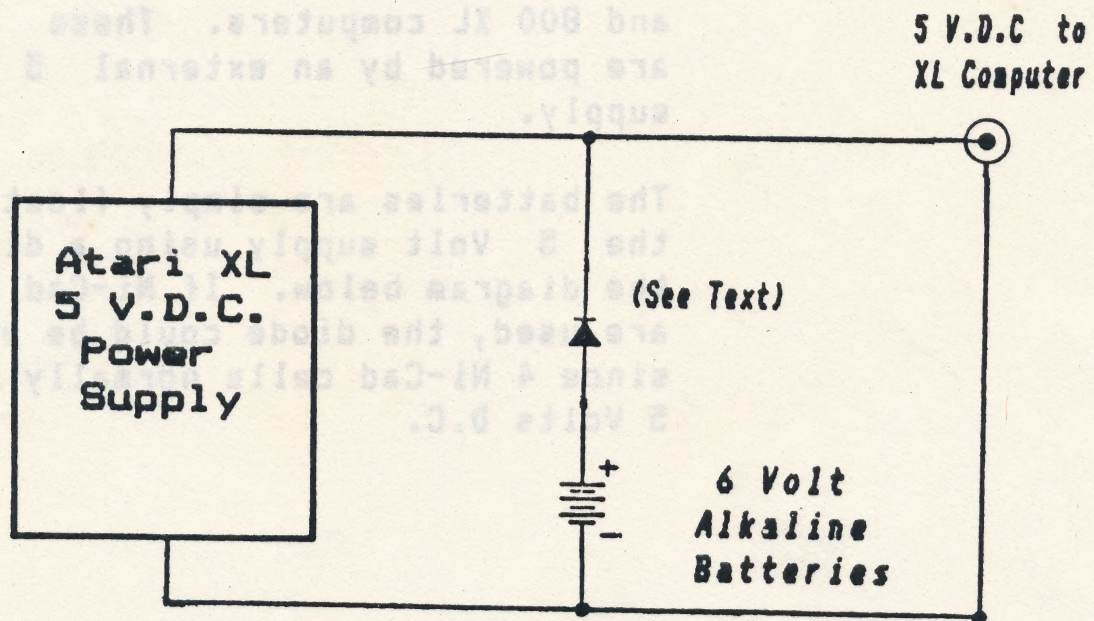
COMPUTER

SELF TEST

The Atari 600XL and 800XL have a self test feature that is helpful in isolating troubles. Start the tests by first removing the INFO/gen cartridge. Then, hold down the 'OPTION' key while turning ON the computer. A 'Self Test' menu will appear on the screen. Press 'SELECT' to choose a test then press 'START'. Press 'HELP' to return to the self test menu.

Use the 'Memory Test' to check the ROM RAM portions of the computer. A Green indicator means everything is OK. RED means a chip has failed.

Use the 'Keyboard Test' to check the keyboard for proper operation.
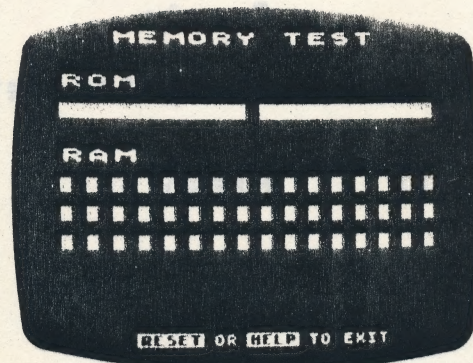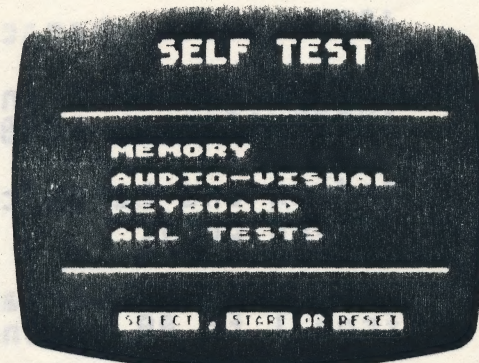
INFO/gen SPECIFICATIONS

Computers:	Atari 400, 600XL, 800, 800XL and 1200XL.
Page Memory:	36 Pages (24 with Atari 400 and Atari 600XL Computers) Independent of the number of lines or characters used on a page! You have a full 24 or 36 pages to use, even if every space on a page is filled!
Regions:	Four. Choice of 16 Colored backrounds.
Formats:	Three page sizes: 12 Lines x 40 char. 12 Lines x 20 char. 7 Lines x 20 char.
Colors:	16 Backround Colors Up to 4 Text Colors
Crawl:	480 useable characters
Character Sets:	MOSAIC GRAPHICS and INTERNATIONAL SYMBOLS.
Flashing:	Medium and Large characters only.
Dwell Time:	Each page is variable from 1 to 99 seconds.
Clock/Calendar:	Built in, Quartz controlled.
Page Sequence:	Random or Sequential.

Video Output:	NTSC compatible. 1 V p-p into 75 ohms. (Not available on Atari 400 or 600 XL)
R.F. Output:	Built in RF modulator for Channel 2 or 3. Approx. 1 - 2 dBmV.
Video Stability:	No Jitter. No Character Edge Crawl.
Display Area:	Contained within 80% SMPTE recommended area to compensate for over scanned TV sets.
Memory Protection:	By Cassette backup or by an external battery pack.
Power:	Approx 1 amp at 5 VDC. (5 Watts on 800 XL).
Warranty:	One Year Limited Warranty.